

Remarks

The Applicants have amended the Specification to add a related applications section and to place the remainder of the Specification in to proper form for allowance. No new matter has been added. Entry into the official file is respectfully requested.

The Applicants have canceled Claims 1-15 and added new Claims 16-29 that correspond fundamentally to Claims 1-3 and 5-15, respectively. Entry into the official file and consideration on the merits is respectfully requested.

Claims 1-15 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite. The Applicants respectfully submit that the rejection is now moot in view of the cancellation of Claims 1-15. Nonetheless, the Applicants note that the "pulverized pieces" refer to the pre-foamed polyimide resin mass. This is easily seen by reference to the examples wherein polyimide foam chips were sprayed with a heat resistant binder of polyamic acid solution, such as in the case of example 1. Thus, the "pulverized pieces" refer to the pre-foamed polyimide resin foam chips and the polyamic acid solution are the heat resistant binder. The Applicants respectfully submit that one of ordinary skill in this art would readily understand that.

The "heat resistant binder" is quite determinate in scope inasmuch as the heat resistant binder is selected from the group consisting of polyamic acids and end-modified imide oligomers.

Claims 1, 3, 7-13 and 15 stand rejected under 35 U.S.C. §102 as being anticipated by or obvious over Hill. The Applicants respectfully submit that the rejection is moot in view of the cancellation of those claims. Also, Claims 2, 4, 6 and 14 stand rejected under 35 U.S.C. §103 over Hill. The Applicants respectfully submit that this rejection is also moot in view of the cancellation

of those claims. Withdrawal of both rejections is respectfully requested.

The Applicants' Claims 16 and 26 are directed to a foam polyimide shaped article produced from a mixture of pulverized pieces of a pre-foam polyimide resin mass including polyamic acid or an end-modified imide oligomer. It is important to note that the heat resistant binder recited in those claims is not foamable. This is true even during the calcining of the mixture. As a consequence, the foamed polyimide shaped articles that result can have very complicated three-dimensional shapes.

In sharp contrast, Hill discloses that a polyimide foam shape is produced from a mixture of fine flakes of polyimide and a polyimide foam precursor. This is disclosed in particular, as helpfully noted in the rejection, at column 1, lines 52-60. Hill further teaches in column 2 at lines 4 and 5 that "any suitable polyimide foam material may be used as the bun material and as the bonding precursor. Hill further teaches in column 2 at lines 20-22 that "if desired, the precursor powder may be at least partially foamed, but not fully cured, before mixing with the flakes."

What this means is that the binder is a polyimide foam material. This also means that the polyimide foam precursor is, of course, foamed during curing of the precursor. The problem with utilizing a polyimide foam material as the bonding precursor/binder is that the resulting shapes and sizes, as well as the applications, of the resulting polyimide foamed material are limited because of such simultaneous foaming and molding. Naturally, those skilled in the art would hardly consider such a resulting polyimide foamed material as being undesirable relative to the resulting foamed polyimide shaped articles provided by the applicants.

The Hill disclosure is sharply contrasted to the Applicants' Claims 16 and 26 inasmuch as the Applicants' heat resistant binder is selected from the group consisting of polyamic acids and end-

modified imide oligomers. Those materials are not polyimide foam precursors. As a consequence, Hill fails to disclose the Applicants' claimed heat resistant binder. Further, the Applicants respectfully submit that a polyimide foam precursor in no way renders obvious the Applicants' polyamic acids and end-modified imide oligomers. As noted above, the Applicants' heat resistant binders are non-foaming, which the Applicants have discovered is highly advantageous, compared to the foamable polyimide precursors taught by Hill. Such foamable polyimide precursors would lead one skilled in the art away from the claimed subject matter inasmuch as the Hill polyimide precursors are foamable, whereas the Applicants' claimed heat resistant binders are not foamable. Thus, the Applicants respectfully submit that the solicited claims are allowable over Hill.

In light of the foregoing, the Applicants respectfully submit that the entire application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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